(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 18 September 2003 (18.09.2003)

PCT

(10) International Publication Number WO 03/077230 A1

(51) International Patent Classification7:

(21) International Application Number:

PCT/IB03/00524

G09G 3/32

(22) International Filing Date: 7 February 2003 (07.02.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0205859.2

12 M

13 March 2002 (13.03.2002) GH

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): FISH, David, A. [GB/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: WILLIAMSON, Paul, L.; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, II., IN, IS, JP, KF, KG, KP, KR, KZ, I.C, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

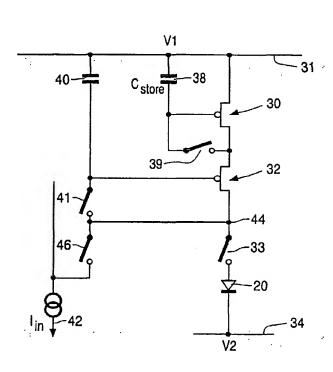
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RIJ, TI, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: ELECTROLUMINESCENT DISPLAY DEVICE



(57) Abstract: active An matrix electroluminescent (EL) display device has a switching circuit for each display pixel which has a drive transistor (30) and a cascode transistor (32) in series with the associated EL display element (20). The switching circuit is operable in two modes, a first mode in which an input current is sampled by the drive transistor (30) and a second mode in which the drive transistor drives a current corresponding to the input current through the EL display element This configuration uses the same transistor for current sampling as for current driving, thereby avoiding the need for matched transistors. The cascode transistor increases the output impedance and ensures that no voltage fluctuations pass to the drive transistor, so that a constant current supply is maintained.

WO 03/077230 A1